

Anderson-Cottonwood Irrigation District

Brenda Haynes, President
Audie Butcher, Vice President
Robert Blankenship, Director

2810 Silver Street, Anderson, Ca. 96007
(530) 365-7329 – Fax: (530) 365-7623
www.andersoncottonwoodirrigationdistrict.org

Jason Munson, Director
Kayle Spoon, Director
Stan Wangberg, GM/Sec

System Improvement Projects: November 2008 ~ October 2014

1. Lateral 29 – Perry’s Pond

Description: Aged, degraded section of 24” pipe that traversed under the pond was leaking badly. Approximately 540’ was replaced by Hoy & Son Construction at a cost of \$22,000 (\$13,500 pipe, \$8,500 labor). District crew replaced approximately 320’ of additional pipe at a cost of \$13,500 (\$8,000 pipe, \$5,500 labor).

Priority: Very high.

Estimated cost: Total cost for replacement of 860 feet of pipe; \$35,500 (pipe – \$21,500; labor – \$14,000)

**Completed 860’ January 2008 by Hoy & Son Construction and ACID crew.*

2. Clear Creek Siphon

Description: Siphon has a damaged or failed joint that has worsened to the point it is leaking an estimated 20-30 cubic feet per second.

Repairs were completed by placement of a steel plate over the hole. The plate was backed with epoxy and Kevlar mesh, and the perimeter of the plate lined with oakum saturated with epoxy after placement.

Priority: Very high. This repair is the highest priority of any project within the District.

Cost: \$4,400

**Completed October 27, 2008 by team of divers.*

3. Spring Gulch Flume – support pillar

Description: Streambed is eroded beneath support pillar leaving it unsupported.

Repairs were completed by vertical placement of two concrete pipe joints five feet below invert to act as forms, and filled with concrete to the bottom of the support pillar. Rip rap was placed on upstream side to prevent erosion.

Priority: Very high

Estimated cost: \$2,000

**Completed October 2008 by crew.*

4. Lateral 29, west of Balls Ferry/Lone Tree Roads intersection

Description: Aged, degraded section of 24” pipeline 160 feet in length needs replacement.

Priority: Very high

Estimated cost: \$8,000 (pipe – \$4,800; labor – \$3,200)

**Completed 160’ November 2008 by crew.*

5. Lateral 37, south of Adobe Road

Description: Aged, degraded section of 24” pipeline 30 feet in length needs replacement.

Priority: High

Estimated cost: \$1,500 (pipe – \$900; labor – \$600)

**Completed 30’ November 2008 by crew.*

6. Lateral 35, north of Balls Ferry/Adobe Roads intersection

Description: Aged, degraded section of 24” pipeline 370 feet in length needs replacement.

Priority: Moderate

Estimated cost: \$18,500; (pipe – \$11,000; labor – \$7,500)

**Completed 370’ November 2008 by crew.*

7. Lateral 37, Adobe Road

Description: Aged, degraded section of 18” pipeline needs replacement. 440 feet of 18” Schedule 80 SDR51 PVC pipe (\$12.14/ft) has been purchased and delivered on-site for installation.

Priority: Very high

Estimated cost: \$8,900 (pipe – \$5,340; labor – \$3,560)

**Completed 440' December 2008 by crew.*

8. Lateral 21, southwest of Rupert Road

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. This section of ditch requires frequent earthwork repair. The best fix for this 300' reach of ditch would be conversion to buried 24" pipeline.

Priority: Moderate

Estimated cost: \$15,000 (pipe – \$9,000; labor – \$6,000)

**Completed 300' January 2009 by crew.*

9. Lateral 27, east of Hawes Road

Description: Aged, degraded reach of 18" pipe needs replacement. 300' of Schedule 80 SDR51 PVC pipe has been purchased and installed (\$11.35/ft. inc. tax).

Priority: High

Estimated cost: \$5,650 (pipe – \$3,400; labor – \$2,250).

**Completed 300' November 2009 by crew.*

10. Cottonwood Creek Siphon

Description: Streambed degradation has resulted in exposure of the siphon within the waterway; the exposed pipe is posing an impediment to fish passage and; scouring of the concrete has resulted in exposure of the rebar. (200' of 48" RCP)

An application for grant funding has been submitted to the US Fish & Wildlife Service, a decision regarding funding is pending.

Priority: Very high; further scouring will result in failure of the pipe.

Estimated cost: \$420,000 (\$310,000 construction; \$90,000 environmental & permitting)

**Completed 200' by RTA & VESTRA November 2010.*

11. Main Canal Modernization Project

Description: Grant-funded project with local cost share component. Crowley Gulch siphon will be constructed (110' of 72" RCP [siphon]; 160' of 36" RCP [wasteway]).

Priority: High

Estimated cost: \$40,000 local share (plus \$1.75 M funded); additional expenses were incurred.

**Completed 270' September 2012 by Syblon Reid Construction.*

12. Lateral 21, between Deschutes Road and Gaines Lane

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. This section of ditch requires frequent earthwork repair. The best fix for this 300' reach of ditch would be conversion to buried 24" pipeline.

[Initial 30' of PVC pipe has been joined to existing concrete at start of ditch; remainder can be joined to newly-installed bell/gasket joint.]

Priority: Moderate

Estimated cost: \$15,000 (pipe – \$9,000; labor – \$6,000)

**Completed 300' February 2010 by crew.*

13. Pick-up Ditch

Description: Aged, degraded reach of 24" pipe needs replacement. 100' of Schedule 80 SDR51 PVC pipe has been purchased and installed (\$23.00/ft. inc. tax).

Priority: High

Estimated cost: \$3,800 (pipe – \$2,300; labor – \$1,500).

**Completed 100' April 2010 by crew.*

14. Sacramento Valley Integrated Regional Water Management Plan, conjunctive use component

Description: Approved grant-funded project with local cost share component for the construction of production wells within the District (total project, \$1,360,000).

Priority: Grant contract with Department of Water Resources/NCWA; MOU with ACID/NCWA.

Estimated cost: \$140,000 local share; \$185,000 in Federal funding has been secured to cover most cost share (estimated \$20,000 non-payroll).

**Underway; wells completed September 2012, pump station construction underway.*

15. Lateral 33

Description: Aged, degraded reach of 18” pipe needs replacement. 80’ of Schedule 80 SDR51 PVC pipe has been purchased and installed (\$11.35/ft. inc. tax).

Priority: High

Estimated cost: \$1,500 (pipe – \$900; labor – \$600).

**Completed 80’ April 2010 by crew.*

16. Clear Creek Siphon

Description: Siphon has a damaged or failed joint, previously repaired in October 2008. The previous patch was lost due to a larger chunk of pipe falling out, resulting in complete shut-down of the main canal. The hole was approximately 2’ x 2’ in size. Repairs were completed by sandwiching two 5’ x 5’ steel plates over the hole, inside and outside the siphon.

Priority: Very high

Cost: \$11,000.

**Completed May 2010 by team of divers.*

17. Lateral 29.2, south of Kimberly Road

Description: Aged, degraded reach of 24” pipe needs replacement. 550’ of Schedule 80 SDR51 PVC pipe has been purchased and installed (\$19.05/ft. inc. tax).

Priority: High

Estimated cost: \$17,500 (pipe – \$10,500; labor – \$7,000).

**Completed 550’ November 2010 by crew.*

18. Lateral 33.2, Spoon Lane

Description: Aged, degraded reach of 18” pipe needs replacement. ~~320~~ 120’ of Schedule 80 SDR51 PVC pipe has been ordered, 66’ of which has been purchased and delivered (\$10.70/ft. inc. tax).

Priority: High

Estimated cost: \$2,100 (pipe – \$1,300; labor – \$800).

**Completed 120’ March 2011 by crew; remainder has been reassessed as lower priority.*

19. Lateral 35, south of Venske Road

Description: Aged, degraded reach of 18” pipe needs replacement. 560’ of Schedule 80 SDR51 PVC pipe will be required (\$13.00/ft. inc. tax).

Priority: High

Estimated cost: \$12,100 (pipe – \$7,280; labor – \$4,820).

**Completed 560’ November 2011 by crew.*

20. Lateral 41, north of 4th Street

Description: Aged, degraded reach of 18” pipe needs replacement. ~~300~~ 140’ of Schedule 80 SDR51 PVC pipe will be required (est. \$13.00/ft. inc. tax).

Priority: High

Estimated cost: \$3,000 (pipe – \$1,800; labor – \$1,200).

**Completed 140’ March 2011 by crew; remainder has been reassessed as lower priority.*

21. Lateral 33, Webb Road

Description: Aged, degraded reach of 15” pipe needs replacement. ~~480~~ 720’ of Schedule 80 SDR51 PVC pipe will be required (est. \$8.00/ft. inc. tax).

Priority: Medium

Estimated cost: \$9,400 (pipe – \$5,700; labor – \$3,700).

**Completed 720' November-December 2011 by crew.*

22. Lateral 37, east of Adobe Road

Description: Aged, degraded reach of 18" pipe needs replacement. 100' 80' of Schedule 80 SDR51 PVC pipe will be required (est. \$13.00/ft. inc. tax).

Priority: High

Estimated cost: \$1,800 (pipe – \$1,100; labor – \$700).

**Completed 80' January 2012 by crew.*

23. Anderson Creek Flume

Description: Vertical joints between the arch sections leak, causing erosion and spalling of concrete surfaces exposed to leaking water. Joints may be cleaned with pressure washer and filled with appropriate flexible epoxy material.

Priority: High

Estimated cost: \$7,500

**Completed March 2012 by crew.*

24. Clear Creek Siphon

Description: Damaged joint that has been repaired twice since 2008 with steel plates placed by divers; this portion of the siphon should be stabilized. Entire siphon in streambed is exposed on upstream and top surfaces due to erosion of streambed material. A report is being prepared by VESTRA Resources detailing possible solutions, alternatives and costs for repair and stabilization of the structure.

Priority: Very high; the highest priority repair/improvement in the District.

Estimated cost: \$7,500 (feasibility report)

**Report completed, Fall 2011; project development underway – researching repair options.*

25. Lateral 2 near Cedars Road

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, structural failure and unauthorized diversions. There are two reaches of this lateral

that require frequent earthwork repair, each about 120' feet in length; one reach provides easy equipment access while the other is difficult to access due to residential development. The best fix for this total 240' reach of ditch would be conversion to buried 24" pipeline using Schedule 80 SDR51 (\$22.00/ft. inc. tax).

Priority: High.

Estimated cost: \$7,400 (pipe – \$4,400; labor – \$3,000).

**Completed 200' (100x2) November 2011 by crew.*

26. Lateral 29 at Balls Ferry Road (Ferd Knerr)

Description: Open ditch is bounded on both sides by private service ditches; the lateral has been impacted by cattle tromps which affects the delivery of water from the lateral to the service ditches. Piping of the open ditch with 120' of 18" pipe is recommended pipeline using Schedule 80 SDR51 (est. \$18.00/ft. inc. tax).

Priority: Low.

Estimated cost: \$3,600 (pipe – \$2,200; labor – \$1,400).

**Ditch has been improved; piping is deferred.*

27. Lateral 21, west side of Balls Ferry Road, north of Deschutes Road

Description: Open ditch is bounded on west side by private service ditch; the lateral has been impacted by cattle tromps which causes failure of the ditch to contain water delivered to both upstream and downstream customers. Existing ditch could be repaired by importing a significant volume of fill material or piping with 700' of 36" pipe using Schedule 80 SDR51 (est. \$78.00/ft. inc. tax).

Priority: Low.

Estimated cost: \$90,100 (pipe – \$54,600; labor – \$35,500).

**Project not cost effective; piping is deferred.*

28. Lateral 21.3, Darting Ditch from Deschutes Road to Riverland Road

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, structural failure and seepage. The best fix for this total 860' reach of ditch would be conversion to buried 24" pipeline using Schedule 80 SDR51 (est. \$32.00/ft. inc. tax).

Priority: Low.

Estimated cost: \$45,500 (pipe – \$27,500; labor – \$18,000).

**Project not cost effective; piping is deferred.*

29. Lateral 55, Amen Lane

Description: Open ditch that is compromised on a regular basis by water thieves who divert water while paying customers are trying to irrigate; proposal is to pipe the ditch past the property on which theft occurs; a 240' reach of ditch would be converted to buried 18" pipeline using Schedule 80 SDR51 (est. \$18.00/ft. inc. tax).

Priority: Medium.

Estimated cost: \$7,100 (pipe – \$4,300; labor – \$2,800).

**Private lateral; piping would be done to prevent ongoing water theft - deferred.*

30. Lateral 41.2, between 4th Street and Balls Ferry Road

Description: Aged, degraded reach of 18" pipe needs replacement. 500' of 18" pipe will be required pipeline using Schedule 80 SDR51 (est. \$18.00/ft. inc. tax).

Priority: Medium.

Estimated cost: \$14,800 (pipe – \$9,000; labor – \$5,800).

**Project not cost effective – piping is deferred.*

31. Drain siphon under Main Canal, Eastside Road

Description: City of Redding storm drain siphon under Main Canal has been damaged so canal water leaks into drain system; need to replace 160' of 18" pipeline using Schedule 80 SDR51 (est. \$18.00/ft. inc. tax).

Priority: Very high.

Estimated cost: \$1,200 (pipe – City of Redding; labor – \$1,200).

**Completed 20' November 2011 by crew.*

32. Smith Bottom Road, McKee/Nichols

Description: Aged, degraded reach of 15” pipe needs replacement. 120’ of 15” pipe will be required pipeline using Schedule 80 SDR51 (est. \$9.25/ft. inc. tax).

Priority: High.

Estimated cost: \$2,110 (materials – \$1,110; labor – \$1,000).

**Completed 120’ Winter 2012.*

33. Lateral 33.2, Spoon Lane

Description: Aged, degraded reach of 15” pipe needs replacement. 175’ of Schedule 80 SDR51 PVC pipe will be required (\$9.25/ft. inc. tax).

Priority: High.

Estimated cost: \$2,700 (materials – \$1,620; labor – \$1,080).

**Completed 175’ Winter 2012.*

34. Lateral 17, Fairwind Drive

Description: Damaged reach of 18” pipe needs replacement. 60’ of Schedule 80 SDR51 PVC pipe will be required (\$14.00/ft. inc. tax).

Priority: High.

Estimated cost: \$2,000 (materials – \$840; labor – \$1,160).

**Completed 60’ Winter 2012.*

35. Lateral 21.3, Waybright

Description: Aged, degraded reach of 24” pipe needs replacement; entire reach across Waybright orchard is leaking. Entire reach is 1,200 feet; will be replaced in phases beginning with 465’ of Schedule 80 SDR51 PVC pipe (\$25.00/ft. inc. tax).

Priority: Very high.

Estimated cost: \$20,000 (materials – \$11,625; labor – \$8,375).

**First reach 465’ completed Winter 2012.*

36. Lateral 29, Hereford Lane

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. The best fix for this 330' reach of ditch is conversion to buried 24" pipeline using Schedule 80 SDR51 (\$25.00/ft. inc. tax).

Priority: High.

Estimated cost: \$13,750 (materials – \$8,250; labor – \$5,500).

**Completed 330' Winter 2012.*

37. Lateral 21, Balls Ferry Road

Description: Existing turnouts are inefficient and prevent vehicular bank access; there are three turnouts that require replacement – (1) 18" and (2) 24". This will include precast headwalls, slide gates, and 20' of Schedule 80 SDR51 at each.

Priority: High.

Estimated cost: \$5,200 (materials – \$3,200; labor – \$2,000). [Headwalls \$1,350; slidegates \$1,150; pipe \$700.]

**Completed 60'; 3 headwalls; 3 gates Winter 2012.*

38. Lateral 5 at Main Canal

Description: Aged, degraded reach of 18" pipe needs replacement. Will require 60' of Schedule 80 SDR51 PVC pipe (\$14.00/ft. inc. tax).

Priority: High.

Estimated cost: \$2,000 (materials – \$840; labor – \$1,160).

**Completed 60' Winter 2012.*

39. Lateral 19, Alexander Avenue & East Street

Description: Aged, degraded reach of 18" pipe needs replacement. Will require 155' of Schedule 80 SDR51 PVC pipe (\$14.00/ft. inc. tax).

Priority: High.

Estimated cost: \$3,600 (materials – \$2,200; labor – \$1,400).

**Completed 155' Winter 2012.*

40. Lateral 33, Hamilton property

Description: Earthen lateral is leaking and overtopping, flooding adjacent lands. Requires 260' of 18" SDR51 PVC pipe (\$13.00/ft. inc. tax); one 4'x4'x6' precast concrete distribution box and three slide gates.

Priority: High.

Estimated cost: \$10,000 (materials – \$6,000; labor – \$4,000). [Box \$1,420; slidegates \$1,200; pipe \$3,380.]

**Completed 260'; box; three slidegates November 2013.*

41. Smith Bottom Ditch

Description: Aged, degraded reach of 15" pipe needs replacement. Will require 300' of Schedule 80 SDR51 PVC pipe (\$9.00/ft. inc. tax).

Priority: High.

Estimated cost: \$4,200 (materials – \$2,520; labor – \$1,680).

**Completed 280' November 2013.*

42. Lateral 27, upper ditch

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. This section of ditch requires frequent earthwork repair. The best fix for this 240' reach of ditch would be conversion to buried 24" pipeline. Will require 200' of 24" Schedule 80 SDR51 PVC pipe (\$23.00/ft. inc. tax).

Priority: High.

Estimated cost: \$9,200 (materials – \$5,520; labor – \$3,680).

**Completed 240' November 2013.*

43. Lateral 27, lower ditch

Description: Aged, degraded reach of 18” pipe needs replacement. Will require 180’ of Schedule 80 SDR51 PVC pipe (\$13.00/ft. inc. tax).

Priority: High.

Estimated cost: \$3,900 (materials – \$2,340; labor – \$1,560).

**Completed 180’ December 2013.*

44. Lateral 21.1, Balls Ferry Road and Stingy Lane

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. This section of ditch requires frequent earthwork repair. The best fix for this 620’ reach of ditch would be conversion to buried 24” pipeline. Will require 620’ of 24” Schedule 80 SDR51 PVC pipe (\$23.00/ft. inc. tax).

Priority: High.

Estimated cost: \$23,760 (materials – \$14,260; labor – \$9,500).

**Completed 620’ December 2013.*

45. Clear Creek Siphon, instream repairs

Description: Approximately 260’ of 84” I.D. poured-in-place concrete pipe is in need of rehabilitation, with a history of failed joints previously repaired by the application of steel plates and epoxy (see previous listings). Development of rehabilitation and funding options is ongoing.

Priority: Very High.

Estimated cost: \$1,000,000 to \$1,500,000

**Schedule dependant on project development and funding.*

46. Clear Creek Siphon, instream and upslope repairs

April 2013, instream repairs:

Instream pipe joint nearest the north stream bank developed leak that required shut-down of the canal and internal repairs conducted by North State Diving. The leak was near the top of the pipe and was repaired by internal installation of a steel plate backed by epoxy, with epoxy/oakum caulking around edges of the plate. Completed in one day – April 10, 2013.

October 2013, upslope repairs:

- Completed repairs to upslope reach of pipe north of Clear Creek. Repairs included:
- Excavation of 400 feet of pipe on east side (300 + 100) and 300 feet of pipe on west side; backfilled with imported clay material, compacted.
- Internal repair with Xypex of 20 pipe joints and all poorly-consolidated pipe areas that leak.
- Repair broken pipe at turn by complete external encasement with reinforced concrete – encasement is 27' L x 12' H.
- Repair two damaged joints by complete external encasement and internal Xypex application.
- Repair one damaged joint by internal and external Xypex application.
- Repair exfoliated pipe section, 3' x 10', separation at rebar, by pouring reinforced encasement beneath and on lower half of pipe, app. 6' x 15'.
- Removed most of old riveted steel casing that runs adjacent to pipe.
- Installed two gravel drain sumps next to pipe (one in upper reach, one in lower reach) to collect water from remaining steel casing and other groundwater; drain is piped to side channel drains adjacent to right of way.
- Graded lower area near creek to provide improved access and protect exposed pipe; installed gravel base under new landing area to allow water movement to creek.

**Completed December 2013; solutions and funding for rehabilitation of instream reach ongoing.*

47. Lateral 19, Duracrane property on Alexander Avenue

Description: Aged, degraded reach of 18" pipe needs replacement. Will require 100' of Schedule 80 SDR51 PVC pipe (\$13.00/ft. inc. tax).

Priority: High.

Estimated cost: \$2,200 (materials – \$1,300; labor – \$900).

**Completed 100' December 2013.*

48. Lateral 21.3, Waybright

Description: Aged, degraded reach of 24" pipe needs replacement. Will require 200' of Schedule 80 SDR51 PVC pipe (\$23.00/ft. inc. tax).

Priority: High.

Estimated cost: \$7,600 (materials – \$4,600; labor – \$3,000).

**Completed 200' December 2013.*

49. Lateral 29, Hoy Road

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. The best fix for this 120' reach of ditch would be conversion to buried 36" pipeline. Will require 120' of 36" HDPE pipe (\$40.00/ft. inc. tax).

Priority: High.

Estimated cost: \$8,000 (materials – \$4,800; labor – \$3,200).

**Completed 120' January 2014.*

50. Pickup Ditch

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. The best fix for this 140' reach of ditch would be conversion to buried 24" pipeline. Will require 140' of Schedule 80 SDR51 PVC pipe (\$23.00/ft. inc. tax).

Priority: High.

Estimated cost: \$5,400 (materials – \$3,200; labor – \$2,200).

**Completed 140' January 2014.*

51. Churn Creek Lateral at Amen's Dairy

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. The best fix for this 330' reach of ditch would be conversion to buried 24" pipeline. Will require 330' of Schedule 80 SDR51 PVC pipe (\$23.00/ft. inc. tax).

Priority: High.

Estimated cost: \$12,600 (materials – \$7,600; labor – \$5,000).

**Completed 330' February 2014.*

52. Lateral 29 at Grimsman's

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. The best fix for this 280' reach of ditch would be conversion to buried 24" pipeline. Will require 280' of Schedule 80 SDR51 PVC pipe (\$25.00/ft. inc. tax).

Priority: High.

Estimated cost: \$11,500 (materials – \$7,000; labor – \$4,500).

**Completed 280' March 2014.*

53. Lateral 35 at Reiser's

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. The best fix for this 240' reach of ditch would be conversion to buried 24" pipeline. Will require 240' of Schedule 80 SDR51 PVC pipe (\$25.00/ft. inc. tax).

Priority: High.

Estimated cost: \$10,000 (materials – \$6,000; labor – \$4,000).

**Scheduled for Winter 2014.*

54. Lateral 35 under SP Railroad

Description: Existing pipeline passing under tracks has failed. The best fix for this 100' reach of pipeline would be replacement with 15" pipe. Will require 100' of Schedule 80 SDR51 PVC pipe (\$9.00/ft. inc. tax).

Priority: High.

Estimated cost: \$6,000 (materials – \$900; labor – \$5,100).

** Scheduled for Winter 2014.*

55. McCarty's new turnout

Description: New turnout will require 40' of buried 36" HDPE pipe (\$40.00/ft. inc. tax).

Priority: High.

Estimated cost: \$2,700 (materials – \$1,600; labor – \$1,100).

** Scheduled for Winter 2014.*

56. Lateral 33 at Mathews Dairy

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. The best fix for this 300' reach of ditch would be conversion to buried 24" pipeline. Will require 300' of Schedule 80 SDR51 PVC pipe (\$25.00/ft. inc. tax).

Priority: High.

Estimated cost: \$12,500 (materials – \$7,500; labor – \$5,000).

**Scheduled for Winter 2014.*

57. Churn Creek Lateral at Peach Lane

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. The best fix for this 40' reach of ditch would be conversion to buried 24" pipeline. Will require 40' of Schedule 80 SDR51 PVC pipe (\$25.00/ft. inc. tax).

Priority: High.

Estimated cost: \$1,700 (materials – \$1,000; labor – \$700).

**Scheduled for Winter 2014.*

58. Lateral 33 duck club

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. The best fix for this 300' reach of ditch would be conversion to buried 24" pipeline. Will require 300' of Schedule 80 SDR51 PVC pipe (\$25.00/ft. inc. tax).

Priority: High.

Estimated cost: \$12,500 (materials – \$7,500; labor – \$5,000).

**Scheduled for Winter 2014.*

59. Lateral 27 at Hopson Road

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. The best fix for this 300' reach of ditch would be conversion to buried 21" pipeline. Will require 300' of Schedule 80 SDR51 PVC pipe (\$20.00/ft. inc. tax).

Priority: High.

Estimated cost: \$10,000 (materials – \$6,000; labor – \$4,000).

**Scheduled for Winter 2014.*

60. Lateral 29 through Easton's

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. The best fix for this 300' reach of ditch would be conversion to buried 24" pipeline. Will require 300' of Schedule 80 SDR51 PVC pipe (\$25.00/ft. inc. tax).

Priority: High.

Estimated cost: \$12,500 (materials – \$7,500; labor – \$5,000).

**Scheduled for Winter 2014.*

61. Pickup Ditch west of Dry Bread Road

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. The best fix for this 300' reach of ditch would be conversion to buried 24" pipeline. Will require 300' of Schedule 80 SDR51 PVC pipe (\$25.00/ft. inc. tax).

Priority: High.

Estimated cost: \$12,500 (materials – \$7,500; labor – \$5,000).

**Deferred*

62. Churn Creek Lateral at Amen's Dairy

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. The best fix for this 1,000' reach of ditch would be conversion to buried 24" pipeline. Will require 1,000' of Schedule 80 SDR51 PVC pipe (\$25.00/ft. inc. tax).

Priority: Medium.

Estimated cost: \$41,500 (materials – \$25,000; labor – \$16,500).

**Deferred*

63. Lateral 21.3 at Waybright's

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. The best fix for this 100' reach of ditch would be conversion to buried 36" pipeline. Will require 100' of HDPE pipe (\$40.00/ft. inc. tax).

Priority: Medium.

Estimated cost: \$6,500 (materials – \$4,000; labor – \$2,500).

**Deferred*

64. Lateral 29 at Grimsman’s

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. The best fix for this 1,000’ reach of ditch would be conversion to buried 36” pipeline. Will require 1,000’ of HDPE pipe (\$40.00/ft. inc. tax).

Priority: Medium.

Estimated cost: \$66,000 (materials – \$40,000; labor – \$26,000).

**Deferred*

65. South Bonnyview pumping plant

Description: Open ditch constructed in loose, non-compacting soils highly susceptible to leaks, rodent damage, and structural failure. The best fix for this 1,225’ reach of ditch would be lining. Will require 1,225’ of lining (\$200.00/ft. inc. tax).

Priority: Medium.

Estimated cost: \$245,000 (materials – \$100,000; labor – \$145,000).

**Deferred*

65. Main Canal lining project, Hill Street

Description: Earthen canal constructed over alluvial fan of unnamed tributary to Spring Gulch; seepage into adjoining Verde Vale neighborhood severe at times. The best fix for this 600’ reach of canal, upstream of Hill Street bridge, would be lining. Will require 600’ of lining (\$500.00/ft. inc. tax).

Priority: Very high.

Estimated cost: \$300,000 (materials – \$150,000; labor – \$150,000).

**Scheduled for October-November 2014.*

Table 1: Completed November 2008-October 2014

Project	Priority	Pipe (ft)	Materials/\$	Labor/\$	Total Cost/\$
1. Lateral 29, Perry's Pond	Very high	860	21,500	14,000	35,500
2. Clear Creek siphon	Very high			4,400	4,400
3. Spring Gulch flume, support pillar	Very high		500	1,500	2,000
4. Lateral 29, west of Balls Ferry/Lone Tree Roads	Very high	160	4,800	3,200	8,000
5. Lateral 37, south of Adobe Road	High	30	900	600	1,500
6. Lateral 35, north of Balls Ferry/Adobe Roads	Very high	370	11,000	7,500	18,500
7. Lateral 37, Adobe Road	Very high	440	5,340	3,560	8,900
8. Lateral 21, southwest of Rupert Road	Moderate	300	9,000	6,000	15,000
9. Lateral 27, east of Hawes Road	High	300	3,400	2,250	5,650
10. Cottonwood Creek Siphon	Grant funding: District share:	Very High	200	130,000 270,000	130,000 270,000
11. Crowley Gulch – MCMP	Grant funding: District share:		270	180,000 120,000	1,750,000 120,000
12. Lateral 21, between Deschutes Rd & Gaines Ln	High	300	6,000	9,000	15,000
13. Pick-up Ditch	High	100	1,500	2,300	3,800
14. Conjunctive Use Project	State funding: Federal funding:	High		500,000 185,000	925,000 1,610,000
15. Lateral 33	High	80	900	600	1,500
16. Clear Creek siphon	Very high		1,000	10,000	11,000
17. Lateral 29.2, south of Kimberly Road	High	550	10,500	7,000	17,500
18. Lateral 33.2, Spoon Lane	High	120	1,300	800	2,100
19. Lateral 35, south of Venske Road	High	560	7,280	4,820	12,100
20. Lateral 41, north of 4 th Street	High	140	1,800	1,200	3,000
21. Lateral 33, Webb Road	High	720	5,700	3,700	9,400
22. Lateral 37, east of Adobe Road	High	80	1,800	1,200	3,000
23. Anderson Creek arch flume	High		2,500	5,000	7,500
25. Lateral 2, Cedars Road	High	200	4,400	3,000	7,400
31. Drain siphon, Main Canal at Eastside Road	Very high	20	0	1,200	1,200
32. Smith Bottom Road, McKee/Nichols	High	120	1,110	1,000	2,110
33. Lateral 33.2, Spoon Lane	High	175	1,620	1,080	2,700
34. Lateral 17, Fairwind Drive	High	60	840	1,160	2,000
35. Lateral 21.3, Waybright	High	465	11,625	8,375	20,000
36. Lateral 29, Hereford Lane	High	330	8,250	5,500	13,750
37. Lateral 21, Balls Ferry Road	High	60	3,200	2,000	5,200
38. Lateral 5 at Main Canal	High	60	840	1,160	2,000
39. Lateral 19, Alexander Avenue & East Street	High	155	2,200	1,400	3,600
40. Lateral 33, Hamilton property	High	260	6,000	4,000	10,000
41. Smith Bottom ditch	High	300	2,700	1,700	4,400
42. Lateral 27, upper ditch	High	200	4,600	3,000	7,600
43. Lateral 27, lower ditch	High	280	3,640	2,460	6,100
44. Lateral 21.1, Balls Ferry Road	High	620	14,260	9,500	23,760
45. Clear Creek siphon insream repairs	Very High		400	5,450	5,850
46. Clear Creek siphon upslope repairs	Very high		90,255	135,380	225,635
47. Lateral 19, Duracrane	High	100	1,300	900	2,200
48. Lateral 21.3, Waybright	High	200	4,600	3,000	7,600
49. Lateral 29, Hoy Road	High	120	4,800	3,200	8,000
50. Pickup Ditch	High	140	3,200	2,200	5,400
51. Churn Creek Lateral, Amen's Dairy	High	330	7,600	5,000	12,600
52. Lateral 29, Grimsman	High	280	7,000	4,500	11,500
Unlisted installations:					
Mar 09: 40' x 24" Lateral 21.3		40	900	600	1,500
July 09: 40' x 18"		40	550	350	900
Oct 09: 40' x 15"		40	550	350	900
Nov 09: 20' x 36"		20	930	620	1550

Total		10,195	1,214,090	3,246,715	4,460,805
District share			404,090	566,715	970,805
Non-District share			810,000	2,680,000	3,490,000

Total installed pipe in linear feet: 10,195

Table 2: Grant-funded projects, completed Fall 2012 (11) & Spring 2013 (14)

Project	Priority	Status	Materials/\$	Labor/\$	Total Cost/\$
11. Main Canal Modernization	High	Crowley Gulch Siphon – complete		Grant funding: District share:	1,750,000 120,000
14. SVIRWMP, Conjunctive Use Project	High	Wells & pump stations complete		State funding: Fed. funding:	1,425,000 185,000
Total					3,480,000

Table 3: Proposed/funded projects

Project	Priority	Pipe (ft)	Materials/\$	Labor/\$	Total Cost/\$
26. Lateral 29, Balls Ferry Road (Knerr)	Deferred	120	2,200	1,400	3,600
27. Lateral 21, Balls Ferry/Deschutes	Deferred	700	54,600	35,500	90,100
28. Lateral 21.3, Deschutes/Riverland	Deferred	860	27,500	18,000	45,500
29. Lateral 55, Amen Lane	Deferred	240	4,300	2,800	7,100
30. Lateral 41.2, between 4 th & Balls Ferry	Deferred	500	9,000	5,800	14,800
45. Clear Creek siphon instream repairs	Deferred	260	350,000	650,000	1,000,000
53. Lateral 35, Reiser's	High	240	6,000	4,000	10,000
54. Lateral 35 under SP railroad	Very high	100	900	5,100	6,000
55. McCarty's turnout	High	40	1,600	1,100	2,700
56. Lateral 33, Matthews Dairy	High	300	7,500	5,000	12,500
57. Churn Creek Lateral, Peach Lane	High	40	1,000	700	1,700
58. Lateral 33, duck club	High	300	7,500	5,000	12,500
59. Lateral 27, Hopson Road	High	300	6,000	4,000	10,000
60. Lateral 29, Easton's	High	300	7,500	5,000	12,500
61. Pickup Ditch, west of Drybread Road	Deferred	300	7,500	5,000	12,500
62. Churn Creek Lateral, Amen's Dairy	Deferred	1,000	25,000	16,500	41,500
63. Lateral 21.3, Waybright	Deferred	100	4,000	2,500	6,500
64. Lateral 29, Grimsman	Deferred	1,000	40,000	26,000	66,000
65. Churn Creek Lateral, Sunnyhill Lane	Deferred	1,225	100,000	145,000	245,000
66. Main Canal lining at Hill Street (600')	Very high		150,000	150,000	300,000
Total (non-deferred)		1,620	188,000	179,900	367,900
Total (deferred)		6,305	624,100	908,500	1,532,600

Proposed pipe in linear feet (non-deferred): 1,620

Oct. 2014 ordered 1,940' of pipe (surplus: 100'x15" – 200'x18" – 20'x24") = 320'